275116-TC PA AND EMERGENCY TENANT CORE PAGING SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes general requirements for modifications to the existing Public Address (PA) system and to the Emergency Tenant Paging System (PA system).

B. The PA system is a Life Safety System. Any modifications to the system shall be designed to take full advantage of the installed MAA Fiber Optic Communications System. All PA nodes Shall be interconnected using Single Mode fiber optics in a redundant architecture.

C. During design process care shall be taken to ensure new work is closely coordinated with OT. The MAA uses different technologies (ACS and Titan) and in some instances the older core equipment will not support newer edge devices and the core equipment will need to be upgraded as part of the overall modification to the system.

NOTE: Some upgrades, especially Software, requires all of the attached paging equipment to be upgraded also to maintain system functionality.

D. Innovative Electronic Design (IED) approved, training shall be provided to OT support staff, (5 people) in the operation, programming and Tier 1 service maintenance at a OT agreeable location.

E. All Communications Stations (paging microphones) shall be independently installed to the head end paging equipment or network switch. IE no “Slave” stations shall be permitted without OT approval.

SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Reflected ceiling plans showing proposed and existing speaker locations

C. Equipment room requirements including environmental

D. Shop Drawings:

1. Dimensioned plans and sections or elevation layouts.

2. Wiring Diagrams: Power, signal, and control wiring specific to this Project. Identify terminals and wiring designations and color codes to facilitate installation, operation, and maintenance. Indicate recommended types, wire sizes, and circuiting arrangements for field-installed wiring, and show circuit protection features.

3. Speaker locations, placement of ambient microphones and zone boundaries must be approved by OT Engineer.

4. General design guidance for speaker placement is every 12 feet.

5. The OT Engineer shall assign Paging Access Point (PAP) and/or Paging Equipment nodes for terminus of all facilities.

6. OT shall make the final determination pertaining to “Message Content” IE what message plays where in the terminal.

1.2 QUALITY ASSURANCE

A. All design work shall be performed by an Innovative Electronic Design (IED) engineer.

All equipment and installation methods shall be in accordance with recommendations from Innovative Electronic Design (IED). Contractor is responsible for contacting this organization and including all associated cost in the bid price.

IED contact information:
Tony Satariano
IED Eastern Sales Manager
815-291-7437 cell
602-707-5296 Office
tsatariano@iedaudio.com

B. A copy of all correspondence, task orders, and work orders with IED shall be also provided to the OT Engineer.

C. OT Engineer shall approve all work prior to work being performed.

D. System design modifications shall be performed by a qualified Life Safety Engineer, approved by IED.

1.3 PROJECT CONDITIONS

A. Interruption of Existing Service: Shall not interrupt PA system service to facilities occupied by Owner or others unless permitted under the following conditions:

1. Notify the OT Engineer and Fire Marshall in writing no fewer than 72 hours in advance of proposed interruption of PA system service.

2. Do not proceed with any interruption of PA system service without written permission.

B. Emergency Evacuation Paging shall remain operational at all times.

1. Notify the OT Engineer and Fire Marshall in writing no fewer than 72 hours in advance of proposed interruption of PA system service.

2. Do not proceed with any interruption of PA system service without written permission.

C. All paging zones shall have at a minimum (1) one ambient noise sensing microphone to control the volume.

1.4 COORDINATION

A. Coordinate all PA system work with the OT Engineer and IED (or designated partner approved by OT).

PRODUCTS

1.5 MANUFACTURERS

A. The existing Public Address System is manufactured by Innovated Electronics Designs, Inc.; therefore, all PA system equipment shall be exclusively approved by Innovated Electronics Design, Inc., only, unless noted and approved by OT otherwise. There will be “No Exceptions Allowed”.

1.6 EQUIPMENT

A. All equipment shall be in accordance with recommendations from IED. Refer to the Drawings for equipment supplier and installation requirements.

B. All equipment shall be new. Remanufactured, used or refurbished equipment shall require OT approval

C. Attic Stock. Designer is to verify with OT Engineer if there is available attic stock available for use.

D. Attic stock. Upon completion of construction the following (to be verified during design) attic stock (spares) shall be provided to OT

1. Speakers. 10% of each installed speaker(s) type, mounting hardware, etc shall be attic stock.

2. Paging Microphones. 10% of installed Paging Microphone(s) type (complete units) shall be attic stock.

3. Ambient Noise Microphones. 10% of installed Ambient Noise Microphone(s) type, mounting hardware, etc shall be attic stock.

EXECUTION

1.7 INSTALLATION

A. Conductors

1. Wire and cabling shall be as recommended by IED and all wire and cabling shall be installed in an enclosed conduit or raceway system.

2. Microphone cabling shall be WP 452 or Beldon 8451 or approved equal (Plenum rated) cable shall be used for all analog microphone cabling

3. Digital Communications Stations (528 series) shall follow OT data wireing standards.

4. Microphone and speaker wire shall not be run in the same conduit

5. Microphone cabling shall not be spliced

6. After installation and before termination, all wiring and cabling shall be checked and tested to insure there are no grounds, opens or shorts on any conductors or shields.

7. Visually inspect wire for faulty insulation prior to installation. Protect cable ends at all times with acceptable end caps except during termination.

8. Connection of new work to existing work or equipment shall only be performed by IED Authorized Service provider.

9. During construction if existing work must be removed/disconnected this work shall be performed by IED Authorized Service provider.

10. Installation of conductors shall comply with any of the methods listed in NFPA 72 Chapters 6.9.10.4.1, 4.2 and 4.3 for survivability. Coordination with IED Authorized Service provider is essential to insure conductor compatibility with system components.

11. Rest Rooms/Bathrooms shall be zoned separately than surrounding zones

12. As built drawings shall be updated/provided to OT showing all paging zones, labeling shall match system documentation prior to system acceptance and shall be considered part of the system acceptance.

13. System Acceptance shall be performed or witnessed by OT Engineer, at the discretion of OT.

B. Field Quality Control

1. Coordinate all final terminations to PA system equipment with IED Authorized Service provider.

2. Perform all tests on new conductors prior to contacting IED Authorized Service provider .

3. Coordinate all final equipment and system testing and demonstration with IED Authorized Service provider, OT Engineer and the Fire Marshal.

4. All connection points to the PA system shall be at existing or new Paging Access Points (PAP), unless approved by OT, see typical drawing at end of section. If insufficient facilities exist, the current facilities shall be expanded to accommodate new work plus 100% capacity or the creation of a new PAP shall be created at the sole discretion of the OT Engineer.

5. PAP shall be installed to accommodate all existing paging requirements (Terminal paging, ACS microphone (if applicable), Ambient Sense Microphone, Shunt trip relay, Emergency paging) plus 100% spare capacity.

6. The PAP install shall include all associated work and programming to make the PAP fully functional.

7. Connection of the PAP to the head end paging equipment shall at a minimum be a (2) inch conduit with (1) ¾ inter duct with a pull string. The inter duct shall remain unused for future use.

1.8 START UP SERVICE

A. Engage IED Authorized Service provider to perform all equipment startup and system programming. Contractor shall coordinate and be on-site for all startup functions.

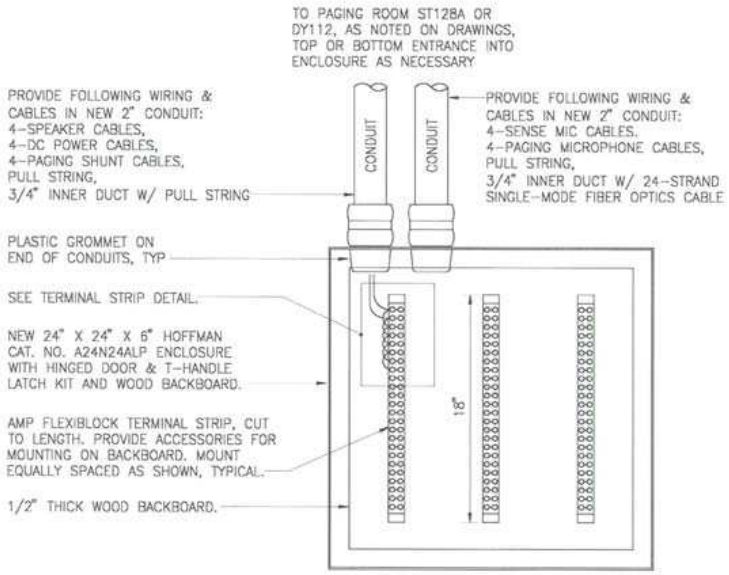
1.9 DEMONSTRATION

A. Engage IED Authorized Service provider to demonstrate proper operation of all PA system equipment.

B. **Typical MAA PAP**

Note the purpose if this drawing is to demonstrate what a “Typical” finished installation will look like. It shall not be interpreted as the final design.

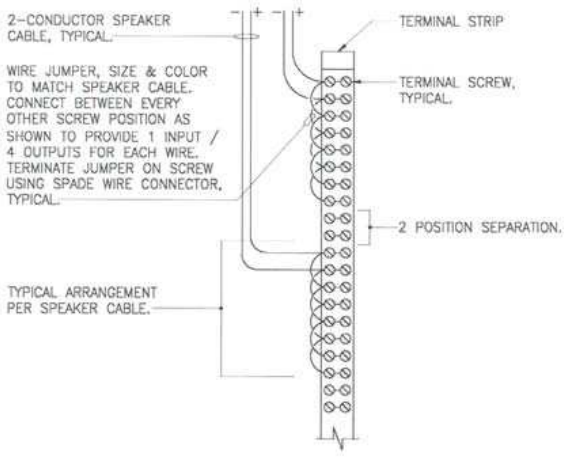
Final design shall reflect all actual field conditions and requirements stated in Section B of this document



NEW EMERGENCY PAGING ACCESS POINT (PAP)
(PAGING ENCLOSURE IN COMM RM) DETAIL
NOT TO SCALE

NOTES:

1. PROVIDE CONDUITS AND WIRES/CABLES (AS NOTED IN DETAIL ABOVE) FROM EACH PAP TO PAGING ROOM ST128A OR DY112 (AS NOTED ON DRAWINGS).
2. ROUTE SENSE MIC AND MICROPHONE CABLES TOGETHER, BUT SEPARATE FROM ALL OTHER CABLES, AS NOTED IN DETAIL ABOVE.
3. SPEAKER AND SENSE MIC HOMERUNS AS SHOWN IN CORRIDORS ARE TO BE ROUTED TO PAP AS NOTED. PROVIDE SPEAKER AND SENSE MIC CABLES AS NOTED ON PLAN SHEETS, IN ADDITIONAL TO THOSE NOTED IN DETAIL ABOVE. PROVIDE ADDITIONAL CONDUITS AS NECESSARY FOR THESE CORRIDOR CIRCUITS, IN ADDITIONAL TO THESE TWO CONDUITS SHOWN IN DETAIL ABOVE.



TERMINAL STRIP DETAIL
NOT TO SCALE

END OF SECTION 275116